Design principles and concept research in "Interior Architecture Design Studio I" during the pandemic period

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Abstract

This research was conducted during Covid 19 Pandemic -when University Education was provided online- as a part of the Design Studio I course for the first-year students of the Interior Architecture Department of Maltepe University, Faculty of Architecture, and Design in the 2020-2021 Academic Year. 62 students participated in this study. In the study in which the empirical research method was used, semi-structured, and closed-ended interview technique was used to analyze the design education, and design principles approaches to the students along with demographic questions. For this purpose, a written interview form consisting of 25 questions was sent. The data conveying the design preferences showing the self-report scales obtained with the natural observation method were tabulated with the qualitative research method. As a result of this study, it was observed that the students were introduced to the concept of design for the first time during their university years. It was determined that they had difficulty in understanding the concept of design in the first stage of distance education, and then they showed improvement. Despite this, it was determined that as their experience increased thanks to course applications, and discussions, their perceptions of the course content also improved.

Keywords: Interior Architecture Design Studio, Design Principles, Concept Design, Online Learning, Teaching under Pandemic Period

Extended Abstract

Introduction: Humanity has experienced outbreaks of different diseases in the last century, and a new global epidemic has struck. In March 2019, education was suspended for three weeks after the first case was reported in Turkey. While most of the universities with infrastructure in Turkey are keeping up with this change, those without infrastructure have started to look for equipment and applications that will allow them to provide distance education in the spring term of 2019-2020. Educational institutions preferred digital meeting applications such as Zoom, Blackboard, Adobe Connect, Google Meet, Teams and Distance Education Centers of the University (UZEM). All universities decided to continue distance education from the 2020-2021 fall semester. In the 2020-2021 fall semester, both students and lecturers tried not to fall behind in education. This process was initially difficult for both parties: they had different experiences and tried to adapt. According to Bitzer, the first online education platforms date back to the 1960s at the University of Illinois (Bitzer, 1986). Thus, virtual learning has gained popularity with the rise of the internet and the spread of personal computers (Harasim, 1987).

Purpose and scope: Thus, face-to-face education was suspended during the pandemic period due to the Covid 19 disease, which emerged in March in the Spring Semester of the 2020-21 Academic Year. This research aims to investigate whether students who have to start university with distance education have difficulty in understanding this course, which includes design and its principles, and whether it contributes to the development of design perception. "Design Studio I" is a 10-hour course with 2 Theory - 8 Practice credits. In this course, students are asked to convey design principles by using design elements and then create two-dimensional style organizations by using each principle. This course aims to improve students' abstract thinking skills by adding one more principle to their understanding of design. In this context, this research includes whether students actively participate in the "Design Studio I" course or watch the recordings of the course, how well they understand the content of the course in distance education, and how they evaluate their satisfaction levels and design concepts. The problem of the research can be expressed as how students who stay at home instead of going to school during the pandemic period deal with these two contradictory concepts and whether students can perceive issues such as design and concept during the distance education period. The research covers the distance education process that started online in the Fall Semester of the 2020-2021 Academic Year. In addition, this study was limited to 62 students who took the Design Studio I course and attended the Department of Interior Architecture, Faculty of Architecture and Design, Maltepe University, where the researchers were working. This study deals with the basic design topics of design education in the first year of Department of Interior Architecture and inquiries design principles and design methods based on a certain concept. In the context of distance education, the concepts of withdrawal and externalization, which define the quarantine period of the study, were chosen as the subject of the study. In this context, it is thought that the study will contribute to design education and the sustainability of this education with the distance education model.

Method: According to the meeting of Maltepe University Ethics Committee dated 25.12.2020, permission was granted for this study with the decision numbered 2020/17-08. This research covers the group of students who had to attend Maltepe University, Department of Interior Architecture, Faculty of Architecture and Design remotely in the 2020-2021 academic year. In this context, the theory and practices related to the learning of design principles and the development of concepts in the Design Studio I course of the Department of Interior Architecture were explained to the students with the distance education model. In this study, it is aimed to use the empirical research method, which is a qualitative research method. A semi-structured interview form was sent to the students under the guidance of an electronic questionnaire. There are 25 questions in the survey, including demographic questions, approaches to distance education, design education, and design principles.

The Blackboard system, which was used by Maltepe University to support face-to-face education before the pandemic, is an educational technology created primarily to support higher education. The system is an education network designed to provide quality education and to meet the changing educational needs after the pandemic. In this period, students had to start their university education through distance education and came across the design concepts in the education system for the first time. In this context, by constantly sharing information, documents, and content with the students, the design elements and principles were explained on a two-dimensional plane, and the students were provided to design with each organization in each lesson and drawing correction discussions were held. The concepts of "Withdrawal" and "Externalization", which are thought to be satisfactory explanations for the current situation during the pandemic period, were chosen within the scope of the subject, and the students were asked to create two-dimensional compositions with design principles.

Findings and conclusion: According to the findings, the students who participated in this research encountered the design concept for the first time at the university. Most of the students, who were highly and moderately satisfied with the education, actively participated in online courses. In general, it has been seen that the most popular basic interior design department materials are marker, rapido, and charcoal pencils. Although they are compositions created with two opposite concepts, it had been determined that they prefer the same design elements, style, and organization. This shows that students did not take risks while creating a design. It was determined that they had difficulty in the first conceptual study, and that after their experience, the difficulty in the second conceptual study decreased. The recommendations for this study are as follows: face-to-face design education is necessary, especially when creating the concept, but the use of data loading areas in project revisions should be continued with online training. While providing face-to-face education, different digital platforms can be used for applied courses.

Keywords: Interior Architecture Design Studio, Design Principles, Concept Design, Online Learning, Teaching under Pandemic Period

INTRODUCTION

Humankind, who has experienced bacteria, and virus epidemics in the last one hundred years, is going through a new global epidemic. Republic of Turkey Ministry of Health defines COVID-19 as;

> *The New Coronavirus Disease, a disease occurred in the city of Wuhan, China for the first time towards the end of December 2019 that causes pathogenies such as fever, cough, difficulty in breathing. COVID-19 was declared as a pandemic by World Health Organization (WHO) on March 11, 2020, when the first case was reported in our country.* (Ministry of Health)

It is known that COVID-19 infects people if they contact someone who has already been infected with the virus. It was reported that people infected by COVID-19 have a wide range of symptoms, from dull to severe. Today, in this period which has advanced communication, and accessibility opportunities, daily lives are being decided on with its positive, and negative effects. At this point, the education, and production centers have been significantly affected.

> *The first prominent factor when it comes to planning education in crisis/emergency situations such as pandemic, migration, natural disasters is that these situations require creative solutions. Thus, this emerging situation makes it compulsory for institutions, and decision-makers to think differently, promote creativity and make quick decisions in order to cater for the needs of students, and educators, and to come up with various possible solutions.* (Bardakçı, 2020)

Upon the first case report in the world in 2019, and in Turkey in March, education was suspension for three weeks at first starting from March 16, 2020; following this suspend, as the case increase started to affect the whole nation, it was decided to switch to distance education. In Turkey, most of the universities with the infrastructure could keep up with this change, but those that do not have the infrastructure started to look for hardware, and application to provide distance education in the 2019-2020 spring semester. Educational institutions preferred digital meeting applications to video chat with multiple users. Some of these applications are Zoom, Blackboard, Adobe Connect, Google Meet, Teams, and Distance Education Centers of the University (UZEM). As of the 2020-2021 fall semester, all universities started to continue education through distance education. This emerging situation was described on Higher Education Council's official website as;

> *Our universities have shown remarkable effort, and most of them performed these actions in a short while. Distance education starting dates are as follows: 121 out of 189 universities (64%) on March 23, 2020 (one week after Higher Education Council (YÖK) suspended education at universities), 41 universities (21.6%) on March 30, 2020, 25 universities (13.2%) on April 6, 2020. While the total number of courses offered was 736.341 in the 2019-2020 Academic Year Spring Semester, the total number of courses offered within the scope of distance education after the pandemic was 663.808. 90.1% of the courses in the Spring Semester was offered as distance education. Live classroom practice is being used in 22% of the classes offered through distance education. While live classroom practices were 53.2% "obligatory for every course" at Foundation Universities, this percentage realized at 29.1% at state universities. Live classroom practice realization percentages are as follows: 25.9% in post graduate courses, 24.2% in doctorate courses, 22.1% in undergraduate courses, and 17.8% in associate degree courses.* (Council of Higher Education)

Due to the extended face-to-face education restriction on higher education institutions, alternative methods or development, and diversification of some current applications are considered necessary. Higher education institutions have to immediately design an environment in which students can access course materials, content, and homework that is easy to use, uncomplicated, and allows students to find whatever they need whenever they log in. The content, and materials of the courses are different in distance education. This type of education offers flexibility, easiness, and options to those who want to get education and includes more than one formation. With the Covid-19 pandemic, an education environment wanted to be created by creating classes with names such as live course rooms, etc. and lecturers had to transform the courses they usually prepared for face-to-face courses into online courses. Another important point that has to be emphasized here is how these students are involved in the process. Distance education must always offer alternative, and flexible environments; it must focus on designing non-selective education environments and be student-centered. Students can access course materials, activities, and homework even if they miss the course. At the same time, a student who joins the courses can get an opportunity to establish effective, and constant communication with the instructor in an online environment. In this online period which was experienced in the 2019-2020 spring semester and continued in the 2020-2021 fall semester, both students, and instructors made an effort in order not to lag behind the curriculum. This process can be defined as hard at the beginning for both parties: bringing different experiences, and doctrines, but it becomes easier to adapt after experiencing it.

Courses are processes that are on the weekly course schedule at the normal course time, but these time students attend an online classroom instead of a physical classroom. The essentiality is that the university can offer students easy, fast, and detailed access opportunities. At the same time, the university must prepare the aids that can instantly support every physical education necessity of instructors on this different education platform. In addition to this support, universities must also not ignore the support units that students, and instructors can easily access when necessary. Higher Education institutions must gather data about the mentioned process. Moreover, a higher education institution must be a bird-dog about the problems, and whether the support units it had created can or cannot solve the students'/instructors' problems (problems about accessibility, course design, and content creation, exam creation, academic development trainings, technological capabilities etc.), and it must adopt a proactive attitude against problems that may occur instantly.

Higher education has also started to change/transform in this period. It can be seen that perceptions occurred with the advantages, flexibility of communication opportunities of the new world, which was planned before the pandemic have sped up. Higher Education institutions have adopted the following: management/leadership concept, and to be able to have students achieve competences that have to be demonstrated in today's conditions, to be able to develop today's competences accordingly, and to be able to reflect them on students, and these are becoming increasingly accepted by everyone.

The first online educational platforms go back to the 1960s at the University of Illinois (Bitzer, 1986). The platform was used until 1990s. This notion preceded the modern internet, and introduced many of the concepts central to today's online interactions, such as chat rooms, and online lectures (Bitzer, 1986). Other examples of distant learning are college-by-radio at the University of Louisville (Dwayne & William, 1999), and televised courses at DePaul University (Jason et al., 1987). Virtual learning gained popularity with the rise of the internet, and the widespread use of personal computers. One of the first online courses for credits were offered in 1984 by the University of Toronto (Harasim, 1987).

> *Since then, a number of open universities across the globe were founded championing, and advocating for the distance learning methodology. Examples include the Open University of Catalonia (1994–to date) (The Open University of Catalonia, n.d.), Jones International University (1999–2015) (Jones International University, n.d.), and the UK Open University (1969–to date) (UK Open University, n.d.).* (Ahmad et al., 2020: 166)

Purpose of the Study

Face-to-face education was suspended due to the Covid 19 disease that emerged in March in the Spring Semester of the 2020 Academic Year, and this caused a compulsory transition to distance education. During this period, many students who were getting ready for the university exam made their occupation selections, affecting their future. This research aims to research whether the students who had to start university through distance education were satisfied with the course, and whether this course contributed to the design perception development.

"Design Studio I" is a 10-hour course with 2 Theory - 8 Practice Credits. In this course, the students are asked to convey the design principles using design elements, and then to create style organizations in two dimensions using every single principle. It aims to improve the students' abstract thinking capabilities with the design understanding they have developed by adding one more principle in every course. In accordance with these aims, students were asked to make a two-dimensional design on "Withdrawal" and "Exteriorization" concepts which are considered to reflect the pandemic process in a good way. Students have required to both question the given concepts with this design, and conscientiously use the design element, principle, and organization. In this context, this research is planned to be on whether students actively attend the "Design Studio I" course or they watch the recordings of the course, and how well they can understand the content of the course in distance education, their satisfaction level, and how they evaluate the design process with the given concepts.

Research Problem

For the first time in their lives, to learn a profession, students started to study interior architecture, a predominantly practice-oriented department, in an online environment, and this situation constitutes the problem of this research. How students who spend their school period at home instead of school during the pandemic tackle these two contradicting concepts, and whether students can or cannot perceive topics such as

design, and concept during the distance education period can be stated as the problem of the research. What kind of relationship is there between distance education, and design education? Were students able to use design titles in design, and concept studies?

Limitations of the Research

The first limitation of the research is that compulsory education had to be online in the Fall Term of the 2020-2021 Academic Year. Education opportunities, and methods that have to be discovered, and developed support this topic. In addition, this study was limited to 62 students who take, and participate in Design Studio I course at Maltepe University, where the researchers work, Faculty of Architecture and Design, Interior Architecture Department.

Scope

With this study, Interior Architecture Department's First-Year design education is addressed under basic design topics, and methods of design are researched based on a certain concept with design principles. In the context of distance education, it is considered that the study will contribute to the sustainability of this education with withdrawal, and exteriorization concepts which define the lockdown period. In this context, it is considered that the study will contribute to the Interior Architecture Department First Year design education, and the sustainability of this education with the distance education model.

METHODOLOGY

This research; according to the Ethics Committee of T.R. Maltepe University, in Article 6 of the directive; is in accordance with the principles such as devotion to scientific discipline, respect for life, not harming, informing all concerned about possible harm, and risks, responsibility to humanity and society. Allowed at the meeting The Ethics Committee held on 25.12.2020 to implement the research, which forms the basis of the publication, with the decision number 2020/17-08. This research includes the student group that enrolled in the Interior Architecture Department, Faculty of Architecture and Design at Maltepe University in the 2020-2021 Academic Year in which face-to-face education continued because of technological shortcomings, and has to continue their studies through distance education with the effect of the pandemic that started in March 2020. In this context, theories, and practices regarding learning design principles, and developing concepts covered in the Interior Architecture Department Design Studio I course are taught to the students through the distance education model. Within the scope of this research, it was aimed to use the empiric research method which is a qualitative research method. Semi-structured interview form which will be directed with an electronic survey was sent to the students. There are 25 questions in the questionnaire, including demographic questions, approaches to distance education, design education, and design principles.

Participants

This research includes the students who have spent the Fall Semester of 2020-2021 Academic Year with the Covid-19 pandemic, and who took the university exam, and got into Maltepe University Architecture and Design Faculty Interior Architecture Department or got into the department through lateral or internal transfer. This research aims to evaluate 62 students between 18 and 20 who took the Design Studio I course that was ongoing in this period. This research specifically on those 58 students who are receiving university education for the first time, and who have to take the "Design Studio I" course, one of the most important courses of the first grade in the interior architecture department that has intense applied courses.

University Exams and Interior Architecture Department

As we faced an emergency with the start of the pandemic period, rapid transition to distance education, and subsequently, usage of distance education methods by both instructors and students allow them to have a crucial experience. Performing teaching, and learning actions in distance education form was good for students, and instructors. After that, if we act with consciousness and based on experience, it is anticipated that the courses can be given by correcting the mistakes made at the beginning. The predominant positive sides of distance education show up by eliminating the problems that have been faced in time. It is considered that

distance education could be necessary for the universities which meet the foreseen needs, and distance education itself could be necessary for education after the pandemic. Universities received positive feedback regarding reasons such as easy archiving, homework accumulation, easy-to-make exams, insufficient classroom solutions, prevention of paper waste, decrease in instructor needs, etc., and they tried to carry coeducation decisions into effect with regulation and senate decisions. Continuing the togetherness in online environment with human contact is important today. According to Karasar;

> With the usage of the internet in education, traditional student, and teacher concepts have changed; now they have the names learner, and facilitator. Students' role is no longer obtaining the information that is presented to them, at the same time, their role is to search, and find information, make it usable in daily life, and benefit from it. Thus, concept of "lifelong learning" found itself a strong ally. Thanks to this, a large part of society can become lifelong learners in a short while. With the internet, the concept of "place" becomes a concept that does not determine whether or not to benefit from education services. Because on the internet, "somewhere" is "everywhere". "Localization" which is adhered to in curriculums is about to vacate its place to "globality" or "universality" concepts. (2004: 120)

While the education process gets transformed during the distance education process, institution policies such as exams, exam duration, grading, homework, project evaluation, and durations have to be designed in discordance with face-to-face education (Bozkurt, 2020: 6). When the final exam time comes, students are able to find the topics that have been covered up until the final exam on a single page which acts like an archive that includes theoretical, written, visual information, and course recordings, and this can be determined as an advantage of distance education.

As of the 2019-2020 spring semester, those change rules were set out for the interior architecture department with similar regulations. Distance education which was partially provided in previous years has become widespread as a practical solution. After completing the spring semester by gaining experience in distance education, university, students, and instructors started the 2020-2021 fall semester more prepared. Accordingly, universities that primarily addressed problems that occurred in previous semester such as lack of equipment are getting much better, and positive results. The interior architecture department is known as a department that requires excessive discipline and attendance as practice courses gain importance in addition to its theory-based courses when the education program diagram of all universities in Turkey is considered. While this is the situation in face-to-face education, it must not be tackled differently way in distance education. Student participation is a present necessity even in distance education especially in project, studio, and workshop etc. courses that have considerable practice hours and are mostly practice-based. Designs can be brought to a certain point only with exchange of ideas with the instructor throughout the semester. When the learner and edifier provide the necessary technological capabilities, and when the instructor uses visual elements frequently to assist the lecture, and shows sample projects, etc., during online distance education, there will be no difference between this education model and making corrections face to face. At the same time, only one student can understand and learn from his/her mistakes while the instructor checks the student's project, but in distance education, all students can see their projects and analyze the mistakes better. This situation produces more effective and positive results for the student. Interior architecture education can also be adapted to distance education when equipment and technology are sufficient. Also, the students who had problems about obtaining materials due to problems such as long curfew hours at the beginning of the pandemic and stationeries being closed etc. were tolerated. Accordingly, a student who does not attend or listen to the course even in distance education cannot learn something from the course and cannot be successful in any education model. Because the final product that emerges here and the stages that the final product went through until its final form is important for interior architecture education.

It is of great importance for an interior architecture department student to develop himself/herself in different fields and to know those who have gained experience and could be his/her colleagues in the future. Accordingly, thanks to the online system, they seized the opportunity to invite the people they want to the classroom environment no matter where they are with an organization (jury, in-class correction, inviting people to course etc.) made by the lecturer. This is also a preliminary preparation for future organizations. Also, in the period of face-to-face education, it is possible to arrange a meeting with someone from any part of the world.

In the light of the experience that was gained in time through the mentioned situation, it is required for an instructor to continuously develop himself/herself by considering the possibility of continuation of this situation in the next track and the instructor has to think about how he/she can be more efficient for the students. The instructor has to rearrange the curriculum according to what this period brings, the courses given and the courses to be given. It is predicted that the instructors and students who can exert this discipline, regardless of the academic unit, can spend this time becoming more efficient and successful.

Design Studio I Course Fall Semester Content

> *The discipline of architecture and interior design education are known to associate themselves with the design studio approach. The terminology design studio refers to both the implemented pedagogy and the physical environment.* (Ahmad et al., 2020: 165)

In Design Studio I course, it is ensured that students' two-dimensional expression skills are developed by giving particular importance to abstract concepts and design elements such as line, style, form, color, and texture which are tackled with more complex phenomenon at the beginner level of basic design principles, starting from dot. The general purpose of the course is to develop creative power and aesthetic sense and to teach the definition of space, basic concepts, and general principles of design. By providing theoretical and applied education two days a week for ten hours from the first week of the course till the end of the semester, it is ensured that the fictional studies that were created through sketch, presentation board preparation, and on a certain theme are evaluated repeatedly by Q&A and commentary. Also, the final step of the process is taken with approaches such as a tendency to achieve expressions from different aspects by inspecting the presentation boards that the student has developed by changing the presentation boards repeatedly through student practices which change according to the topic in every course through student implementations such as creating texture, color, background plane. Model practices for the perception and expression of two-dimensional practices as three-dimensional studies are tackled with towards the end of the semester. The purpose here is to initiate the first structural perception by sizing the design which was made in abstract concept while overseeing space setup, human and other factors. Uluoğlu (1990) determined these features in her study on design studios as follows.

- *Design studio is the most important indispensable part of architecture education.*
- *No matter who teaches design, design is learned by designing.*
- *One-to-one meetings and criticizing are the education methods in design studio.*
- *As information on how to design is received from the coordinator, the coordinator assumes the essential role.* (Uluoğlu, 1990)

Basic Design Elements and Design Principles

The basic design principles and the elements that determine their substructures are being used as an expression method in the visual compositions required to be created. The designer's age, education, culture, impact of the environment on him/her, his/her psychology, mental, intuitional approaches, imagination, expressiveness and ability to express are a factor when reflecting a developing idea on paper. Every designer's approach can vary according to his/her personal point of view and mental activity to the extent of his/her perception in terms of tackling with approach and setting.

Design elements that constitute the design are based on the explanation of the stylistic setting that the designer put forward, design process and indication of the effectiveness of certain concepts created in the designer. The first element creates that indication is dot. The purpose of using the element of dot in a composition is a locator with the effect it gives. It is a dimensionless design element that has no width or length, and its height cannot be measured. Dot is highlighted with the intensity distribution blotch rate of its spaced or frequent placement on a drawing plane and creates a line or a surface if it is made with equal intervals (Yılmaz, 2009: 27). Line is an essential form of expression for designers. It is used as a means of manifestation tool to express purposeful and purposeless thought and feeling that cannot be expressed verbally. Different variations of line can be created with different materials and infinite tools (Öztuna, 2007: 59). While lines that are rounded, circular, curved, and do not have hard edges have soft effects; straight and horizontal lines signify stillness, inactiveness, and refreshing; thick broken and intersecting lines, lines that are vertical when compared to horizontal or traverses that disturb parallelism, and contra-directional ones create dynamic effect (Özol, 2012: 63).

Style which is another topic of design elements is a tool, technique which was developed to construct the surface as two or three-dimensional as a visual element which was created by turn and curves gathered by the multiple line that indicates the existence of objects (Atmaca, 2014: 51). It gains value with the effectiveness of line and color while it creates the definition of form with its sizable, blotchy state, it can be spotted with its symmetric, asymmetric, organic, inorganic, artificial etc. state (İncearık, 2011: 24).

The repetitive effects of similar perceivable sensory manifestation on the faces of the internal structure features of all beings in nature are called texture. Texture can be distinguished with its physical structure such as opaqueness-brightness, adverseness, unevenness which can be identical or different. Copying the textures in nature or the effort of creating the new independent of them, emphasizes the aesthetic approach to creations (Özol, 2012: 210). For texture designers, it is a tool of which different versions are used in composition to increase perceptual selectivity without changing the color or tone value (Öztuna, 2007: 88).

The sense created by light rays reflected from objects in the eye and can be perceived by the eyes and brain is called color. Colorful rays that are decomposed as red, orange, yellow, green, blue, dark blue and purple by the refraction of sun light which consists of seven different colors on a glass prism is called spectrum. When all colors composing the spectrum gather, they create the color white; if there is no ray, the color black is created. Design is also attractive because of its numerous effects that it creates on people and its meaning power in a composition (Yılmaz, 2009: 31). Paleness, darkness levels of surfaces are called tone value, lighting level of light on objects is called tone (Atmaca, 2014: 23). All topics such as dot, line, surface, style, form, texture, color, and light create the design elements. Conscious usage of the design elements on the surface is realized with design principles and formal organization topics.

While the Turkish Language Association defines the concept of influence as a set of results, reactions, events, a reason for perspectives to occur, the impression made on someone; the visual effect is the conception that we have with an external stimulus that the environment provides, and reaction is produced as the reflection of feeling and thought as a result of mental activities an individual stimulates. While it is a factor in perceiving the messages obtained by the sense of sight, it is a power for inference. The theory in which the effect which was created when the parts that create the entirety itself is perceived is called Gestalt. Wertheimer developed closeness, correctness, similarity, cloudiness, continuity, symmetry, motion, experience factors of the theory which are about perception (Aydınlı, 1992). According to the Turkish Language Association's definition, words we use to talk about the concepts and creatures whose existence cannot be defined with one of the receptors, but whose existence is known by belief and feelings are abstract; the exact opposite of this word which describes the things that we can perceive with feelings and whose existence can be proven are concrete. In studies which have high visual value and can evoke the audience's feelings and thoughts and in which stylistic abstract and concrete expressions are included basic design principles are visual effect tools, and their definitions that describe the activity of each one in the composition are briefly as follows.

Design principles can be collected under 5 topics (Figure 1). One of these principles is balance, which is the fictionalization of the bond between object, style, color, texture, direction, gap, and measure that are the factors in the addressed artistic study in a harmony as a visual effect (Atmaca, 2014: 70). Balance, which is also a principle of nature, is divided into two variations by defining the free placement of elements such as symmetry, dark-light, rounded-cornered, big-small, curved-straight, horizontal-vertical, few-many, full-empty etc. that conflict with each other and have differences between them in terms of color, style, harmony in a composition (Yılmaz, 2009: 36). Integrity is the name of the unity that is created by the concourse of harmony and variation rates of elements that create the composition. The most important factor in the creation of unity is that there is an aesthetic connection between each part that has an indicator in its principles such as conflict, balance, sovereignty, variety, and coherence (Atmaca, 2014: 86). While the factors that also allow us to focus on the design have the same style, size, texture, color, and explicandum create the aesthetic bond, they also prevent the untidiness and unnecessary emphasis in the composition while creating the aesthetic bond (Becer, 2002: 72).

Figure 1. Basic design principles

The principle of hierarchy is a bridge that connects two opposite points to one by changing the rate, color, texture, style, or direction with the determined importance level according to the elements included in the design and the qualities of the desired factors emphasized. The mass media is an approach designers use to draw attention to the points they want to emphasize in their art practice; when it is insufficient, it cannot be transmitted to the audience and cannot direct the audience to interpretation (Öztuna, 2007: 44). The concepts of ratio and proportion are tried to affect the indicative value of the perception, which is related to each other in terms of the size and size used in the arrangement of a composition. Positioning the elements placed in the composition much larger and more dispersed than necessary, and inaccurate placement of the size, tone, stain and shadow of the narrated elements will create an extremely wrong expression (Yılmaz, 2009: 36). If a correct calculation is made between the objects and the proportion and size are created, the accuracy and artistic quality of the work will increase (Atmaca, 2014: 94).

In design principles, contrast is the placement of elements that are different from each other in terms of visual and color quality to make the design recognizable at first sight, to make it more interesting than it is, and to make it eye-catching (Williams, 2008: 13). Dominance, alias emphasis is the process of bringing something into prominence with different methods by determining the visual perception order of parts that are gathered in the practice, and if the audience do not keep looking and enjoy the emphasized parts, then there is a visual distortion (Öztuna, 2007: 37). Movement is a design principle that allows for transition follow-up by observing elements such as line, form, style, and curve from one point of the work to another when one looks at the composition as a whole and aims to let the audience spend more time while looking at a visual than usual by making the design unstable (Erdoğan, 2019). The rhythm, which is an element in which the movement in the application is felt and what is wanted to be emphasized is reflected in the whole design, creates visuality by evoking the movement with the regular repetition of the elements or motifs followed. Appeals to the eye and affects the viewer by providing visual continuity in the design (Reardon, 2004). Repetition is the usage of fictional similarity by placing background, photograph, graphical shapes, and lines in the same way or closely to provide continuity and integrity in the design (Erdoğan, 2019). The movement that is pointed out by the entirety of dots and lines that are directed on the design which is created in compliance with the message which is desired to be given by the designer to the audience is called direction (Becer, 2015: 62). Harmony is the coherence and similarity of the interaction of elements and independent parts that create a composition, and concord is the bond that is developed in accordance with the integration factor in order to be able to perceive the factors that are repeated in a practice as a whole (Ocvirk, et al., 2015: 49). Even if there are contrasts in the work, linear approaches that have the quality to create the visual and parallel harmony between the measures and value that affect the design that was created, and similarities of linear approaches in terms of style, color, texture, direction, gap, and style make concord stronger (Atmaca, 2014: 78). Unition of design elements and design principles can create a visual composition. The idea of forming this unity creates the design itself (Figure 1). Modern design educational principles advocate for combining arts with up-to-date practices (Nerdinger, 1985), through a range of learning methodology that brings together lecture courses (theory) and workshops (practice) (Gropius, 1965; Gropius, 1968).

Formal Organizations

To make any conscious design, formal organizations have to benefit while design elements and principles are used together. Formal organizations can be explained under 5 main topics. Central organization can be described as the first arrangement that is involuntarily used by everyone who has not received design education. Central organization occurs as a result of having geometric or organic style that is being used right in the middle of the composition. Second and third group styles do not spoil the grouping in the center expression by being around the styles which are also around the center. Central organization usually has symmetry, but, if required, another center can also be achieved by moving it to a different point of the central composition.

Linear organization, as its name signifies, can be expressed as the arrangement of the styles that are on a linear shaft. This linear order can be made of different systems that are composed by increase and decrease in a consecutive system. Also, the designed linear order can be created with a certain parallel repetition, a diagonal rhythmic order or the ray effect.
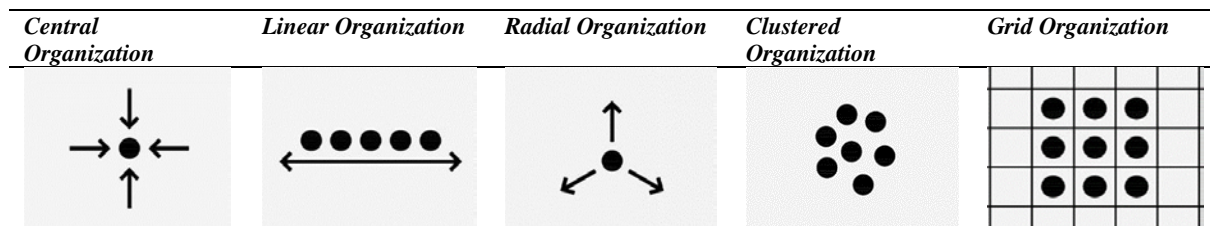
Central Organization	Linear Organization	Radial Organization	Clustered Organization	Grid Organization

Figure 2. Formal organizations

The radial organization is an arrangement in linear expression like a sun ray that comes from any center of choice. Focal point of the radial organization can be in the middle or on the edge of the designed composition, and it can even be outside of the composition. Cluster organization can be formed with the grouping of close and similar styles in different sizes or by having common similar features in textures. Group numbers and features can be improved in this organization in concern with the design ability and liking of the designer. Finally, grid organization can be defined as a quadrature or grid system created with certain intervals. Squares or grids used in this system constitute a base for the system which will be used as reference lines, and they can be fictionalized with similar intervals or arranged consecutively. Also, the arrangement can be parallel in horizontal order or can be considered diagonal. Formal organizations make it easy to tackle with intuitional approaches in the arrangement of styles which are a product of thought in a logical framework (Figure 2).

The Process of Creating Concept and Design Product

Essentially, design is a mental prior condition for every conscious event. Design is a must in order for a conscious event to take place. It uses all kinds of opportunity of cognition as it has cognitive quality. As design improves, emotionality styles (imagery), categories of mentality (concept) and reasoning ability starts to transform into founder quality (conditional and limited) from its arranger quality, in other words, the quality that requires unconditional existence. The existence of concepts in design is dependent on the application of the rules derived from simple to complex relationships (Kömürcüoğlu and Altaş, 2003: 16).

According to Çelik and Aslan, the interior architecture design course's content is being discussed to search for answers to four concepts. These are reasoning / concept development, discussion / criticism, questioning / analysis and evaluation / design. The product of all these concepts creates the mental processes that include obtaining design information and to be able to use them and contribute to design method. However, these mental processes are not technical and practical usage of design knowledge oriented; they are thoughts that are creating a style oriented. In short, it is the discussion on how to achieve original way of thinking (designer thinking) (Çelik and Aslan, 2012: 57-58).

One of the most important aims of design studio course is to direct student to abstract thought and thinking conceptually. Here, the aim is to make student realize that he/she has to make conscious choices and organizations while applications are being interpreted accompanied with an instructor. In this process, the student learns how to intellectually address the style and arrangements that he/she chose instinctively. Criticizing is a crucial factor as a transfer method in conceptual approach fiction of design studio course. It has

a structure based on sharing an idea for helping the designer in the direction to follow and instructor's and student's deed in moving forward on the same road. Supporting the development of mentality with Q&A practice is crucial in producing idea and formulating concept deeds. Realizing, questioning, thinking, learning, adoption and analysis can be presented as the stages that student has to pass in the applied stages. Students who cannot still internalize the transfer language at the stage in which conceptual references are transformed into design proposal, use their basic abilities to generate their design ideas and their intuitional or analytic decisions that they make in this process directly affect the targeted spatial practices in the design course. Determining the effect of the concepts taken as reference on design tendencies through student remarks allows the inspection of the design processes allocated for concept representations (Türkmen, 2020: 246).

FINDINGS

Maltepe University is an institution that was using today's communication opportunities before the pandemic and it guides both its instructors and students and when the pandemic started, it easily switched to distance education without any problems as it has a strong infrastructure. It supported this issue with webinar trainings and meetings such as training of the trainee in order for its students to get a complete education by improving the same infrastructural system in the 2020-2021 Academic Year Fall Semester. The Black Board system, which the university used before the pandemic to support face-to-face education, is an education technology created primarily to support higher education. The system was created with the aggregation of thorough education understanding and technology. It is an education network designed to supply quality education and meet the educational needs that have changed after the pandemic. This study was carried out Black Board education network within the 2020-2021 Academic Year Fall Semester. In this period, students had to start their university education through distance education and came across the design concepts in the education system for the first time. In this context, students were allowed to design with every principal organization in each course by explaining design elements, and principles one by one on a two-dimensional plane by constantly sharing information, document and content with students and drawing correction discussions were held about the topic.

After tackling with all design principal topics, it was deemed suitable to choose topics that reflect the current time in the abstract when the current time and design function considered. The "Withdrawal" concept, considered to explain the current situation during the pandemic period satisfactorily, and the "Exteriorization" concept, which is being dreamed about, were chosen as part of the topic. Students were asked to create two-dimensional compositions by maintaining these concepts, design elements, principles, and visual organization. Withdrawal concept was considered appropriate when it is considered that the living spaces of students have become a classroom and most of these students who have recently attended to university have to stay home within the scope of the curfew order for younger than 20 years. After that, the second concept, which describes the transformation of the lives of these students, who will produce designs on a two-dimensional plane by tackling the withdrawal concept into normal, was introduced. The design in which students tackled with the withdrawal concept and return of the social life opportunities that students dream about with "Exteriorization" concept was expected to be designed by the students with opposite point of view and organizations more different than its factors, elements, and principles. According to the Turkish Language Association Dictionary, "Withdrawal" is expressed as being bored or being buried under (TDK). "Exteriorization" means getting out from a closed place. Sixty-two students taking the Design Studio I course participated in the design process, which was made with concepts considered appropriate in explaining the pandemic period. 61.29% of these students are women, and 38.7% are men.

The 2020-2021 Academic Year started with distance education at all universities due to the pandemic. Therefore, the students who usually change cities for university education did not feel the need to change their cities because of the distance education decision. Out of 62 students who take Design Studio I course, 6.45%, a very small portion, changed their cities for university education just in case. 67.74% of these students did not change their cities, and 25.8% stated the need for changing their cities when face to face education begins (Table 1).

Table 1. Did you change your city to receive your current university education?
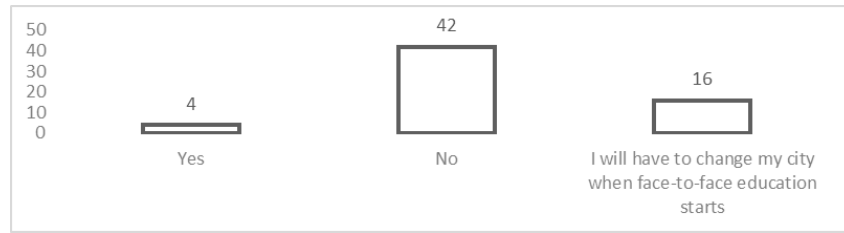
87.09% of the students who participated in the survey are high school graduates, 12.9% have never studied at a university before (Table 2). It was determined that the students who have been to university before are associate degree graduates of design departments such as interior design, restoration, and architectural restoration and 1 of them made lateral transfer from the interior architecture department. Except for the 4.83% of the students who received associate degree education, 95.16% had never previously received design education before, and they come across the design concept for the first time (Table 3).

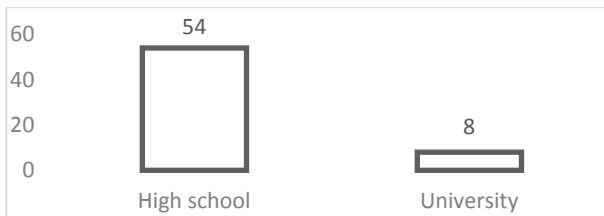**Table 2.** The school you went to before your university education?

Table 3. Have you ever received education current regarding design before your current university education?

Within this scope, a question regarding how these students who have to receive courses regarding design in distance education format were affected by "Design Studio I" course was asked. Most of the students, 38.7%, stated their indecisiveness by answering the question as neither satisfied nor dissatisfied. As the other majority, 32.25% emphasized that they are satisfied. While a small portion about 8.06% indicated they are very satisfied, a substantial percentage about 14.51% stated they are dissatisfied and also, a not to be underestimated group of students about 6.45% stated that they are extremely dissatisfied (Table 4). 87.09% of these students actively attend online courses. 12.09% stated that they watched recordings in a different time period after the course (Table 5).

Table 4. How did it affect you to get design education online?
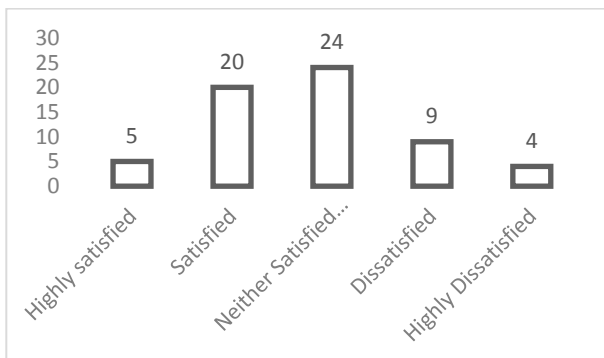
Table 5. Do you attend the online courses or do you watch the recordings?
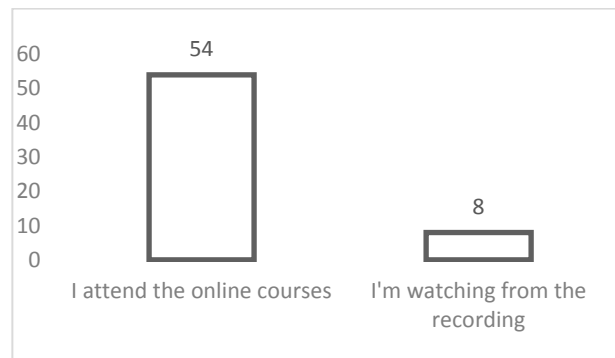
Certain negative reflections of distance education in which students have faced many difficulties on the perception of design concept is envisioned. The question asked within the design understanding which continues according to the table shown in Table 6 and in the online course provided through education network is do you feel yourself developed towards abstract thinking. 51.61% of students said yes, 30.64% said strongly agree. 3.22% said disagree and 1.61% said strongly disagree while 12.9% stated that they were indecisive.

Table 6. Do you feel that you have improved yourself about design or abstract thinking thanks to your   currently ongoing education?

Different drawing and design materials are used in architecture department which is an applied discipline. Especially in face-to-face education, a lot of different techniques such as how to hold a ruler, pencil usage etc. can be shown to the student and also, false use can be corrected instantly within the workshop environment. However, in distance education, students had to discover material and usage techniques on their own. They were asked which materials they used the most during this period. Stud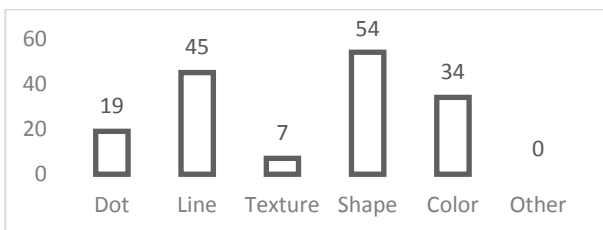ents were allowed to mark more than one option, and their preferences are as follows: 26.53% used marker pencils, 23.46% used rapido pencil, 20.4% used charcoal pencil, 13.77% used colored dry pen and 11.73% used collage method which is known as the cut and copy method. Data on other preferred methods can be seen in Table 7.

Table 7. What visual expression materials do you prefer while creating a design in Design Studio I course that you are currently taking? (You may choose multiple options)
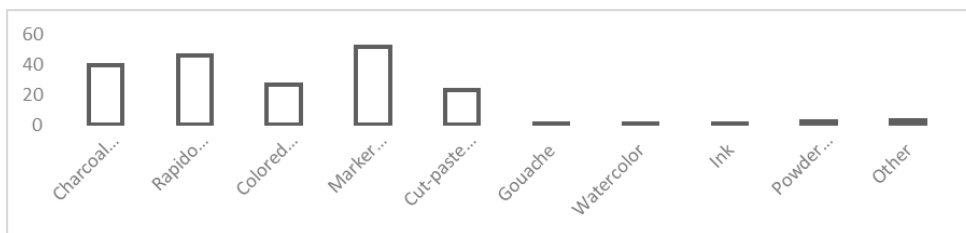
The first concept that students were asked to design in totality of design and concept relationship was "Withdrawal". While thinking through with this concept, 33.96% of the students primarily chose design; 28.3% chose line and 21.38% chose color in their design element preferences. In the context of withdrawal concept, square is a commonly used shape with 33.05% and subsequently circle with 29.66% and triangle with 23.72%. 38.33% preferred central arrangement in formal organization usage. Subsequently, it is seen that radial arrangement is preferred with 17.5%, and grid and linear arrangement is an equal reason of preference (Table 8). In the context of design principles, while the students who tackled with withdrawal concept used coherence factor, 37.5% did it with repetition of shapes principle. It is seen that 49.33% preferred asymmetric balance to create balance principle. While creating hierarchy principle, a great majority, 60.56%, used different thicknesses and to create proportion principle, 54.21% did it by creating dimension differences. Finally, in the context of dominance/emphasis principle, 49.45% preferred to emphasize mostly with dimensional quests (Table 8).

Table 8. Preferred design factors while designing the withdrawal concept

Design Element Preferences   Style Preferences

Formal Organization Preferences

Radial: 21	Grid: 19	Central: 46
Linear: 19	Clustered: 15	

Coherence Factor Usage

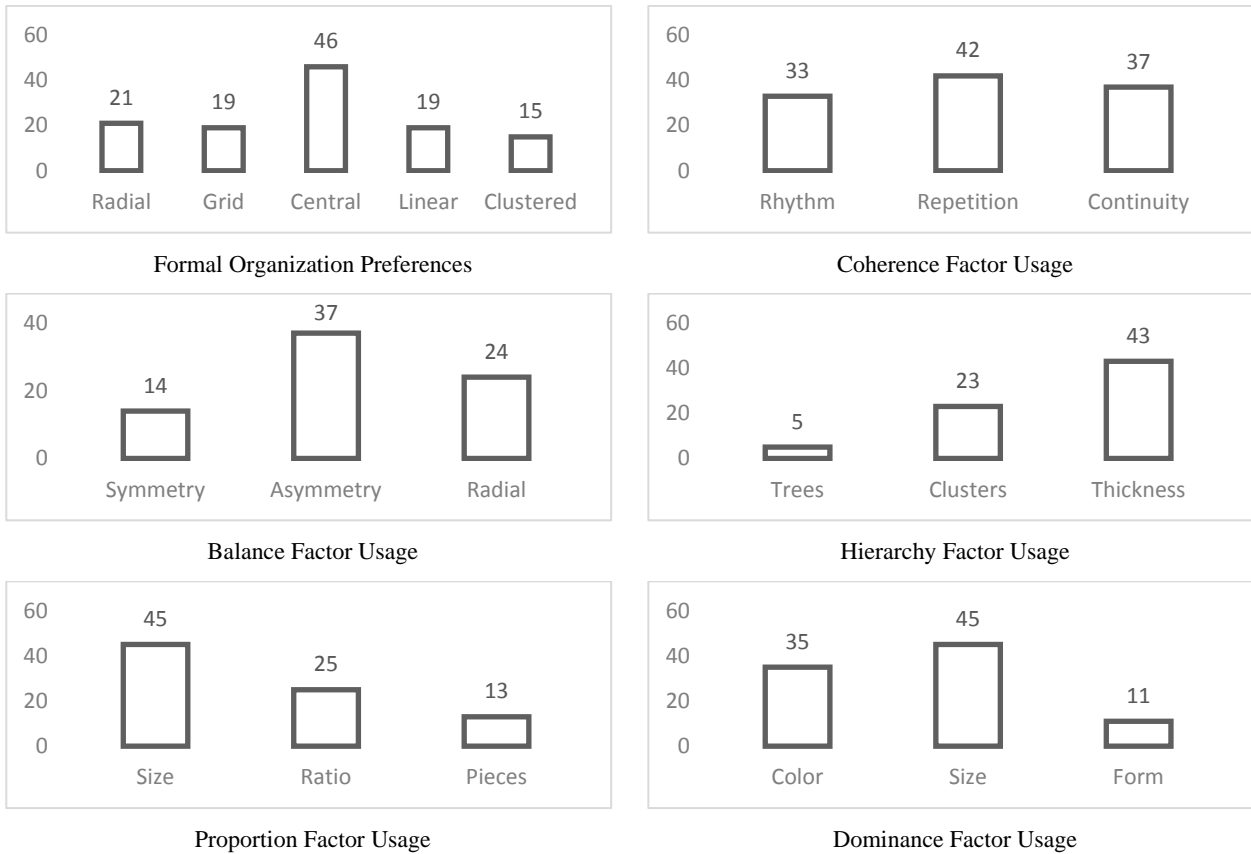|		
Rhythm: 33	Repetition: 42	Continuity: 37

Balance Factor Usage

Symmetry: 14	Asymmetry: 37	Radial: 24

Hierarchy Factor Usage

Trees: 5	Clusters: 23	Thickness: 43

Proportion Factor Usage

Size: 45	Ratio: 25	Pieces: 13

Dominance Factor Usage

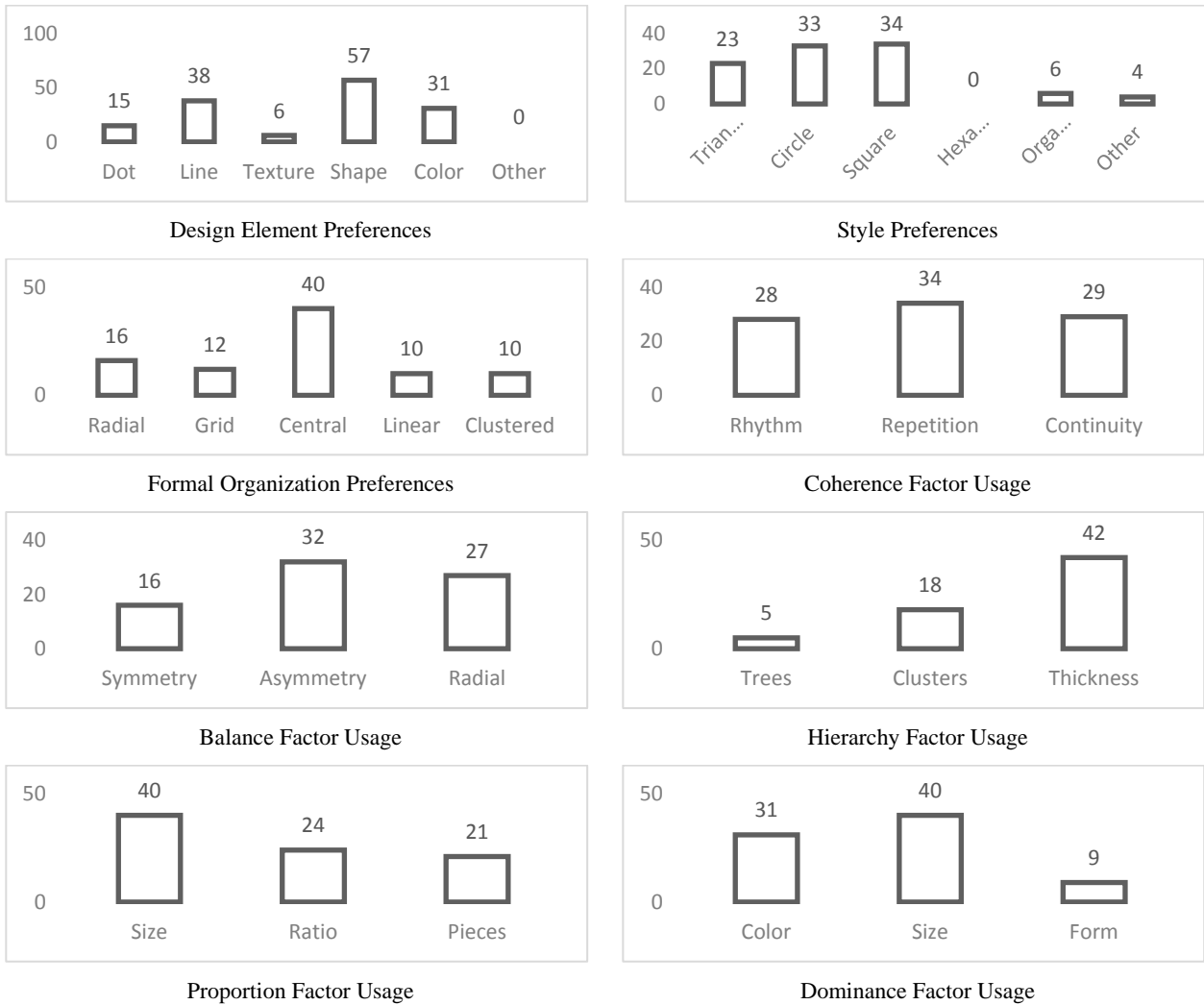|		
Color: 35	Size: 45	Form: 11
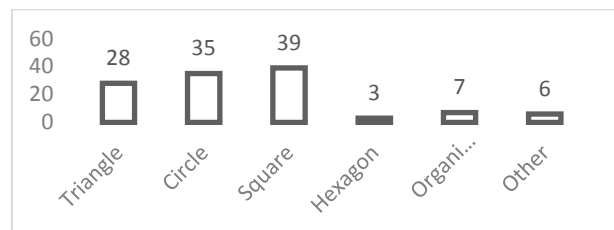
The process was not easy for the students who started to think design oriented with a concept for the first time. Thus, after the practice, they were asked whether they had difficulties or not while designing with the Withdrawal concept. Those who expressed themselves by saying I had difficulties and 'neither had difficulties nor had no difficulties equal at 29.03%. Percentage of I had a lot of difficulties, and I have not had any difficulties is quite low (Table 9). In this context, it was observed that 33.87% of students, which constitutes a great majority of the participants, had difficulties in the first concept practice.

Table 9. While designing the concept of "Withdrawal"

I have not had any difficulties	I had no difficulties,	Neither had difficulties nor had no difficulties	I had difficulties	I had a lot of difficulties
1	18	18	21	4
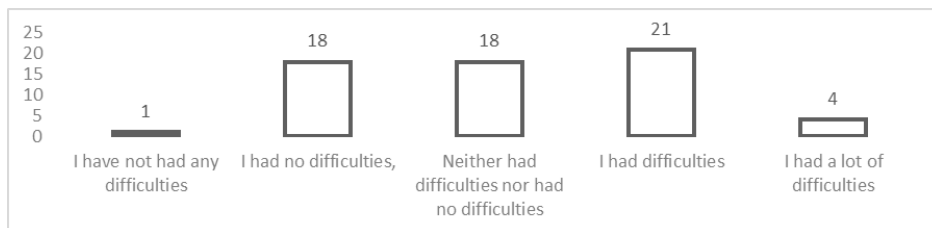
After the first conceptual design process, students were asked to think on the "Exteriorization" concept and to enter the process. In this process, discussions were held on the unity of design elements, principles, and organizations by making corrections time and again. Whole of design factors which were preferred within the scope of the "Exteriorization" concept were presented in Table 10. According to the table, design element choice of the students who had the opportunity to select multiple options are as follows: 38.77% preferred to use shapes, 25.85% preferred to use lines and 21.08% preferred to use color. Among the used forms, 34% chose rectangle, 33% chose circle and 23% chose triangle. Central organization was chosen with 45.45% when the question which organization did you use asked. Subsequently, following preferences are seen: radial organization with 18.18% and grid organization with 13.63%.

Table 10. Preferred design factors while designing the exteriorization concept

Design Element Preferences

Dot	Line	Texture	Shape	Color	Other
15	38	6	57	31	0

Style Preferences

Trian...	Circle	Square	Hexa...	Orga...	Other
23	33	34	0	6	4

Formal Organization Preferences

Radial	Grid	Central	Linear	Clustered
16	12	40	10	10

Coherence Factor Usage

Rhythm	Repetition	Continuity
28	34	29

Balance Factor Usage

Symmetry	Asymmetry	Radial
16	32	27

Hierarchy Factor Usage

Trees	Clusters	Thickness
5	18	42

Proportion Factor Usage

Size	Ratio	Pieces
40	24	21

Dominance Factor Usage

Color	Size	Form
31	40	9

When we looked at how the students use design principles while designing with the "Exteriorization" concept, it can be said that they tried to achieve coherence in the design with the following topics: 37.36% repetition, 31.86% continuity and 30.76% rhythm. In the context of concept, 42.66% of the students tried creating asymmetric balance and 36% tried creating radial balance. Within the scope of the hierarchy principle, a great majority of the students, 64.61%, composed it again with the thickness principle. It was determined that 47.05% formulated the proportion principle with dimensional quests and 50% laid stress with dimension differences within the scope of the dominance principle (Table 10).

Table 11. While designing the "Exteriorization" concept

I have not had any difficulties	I had no difficulties,	Neither had difficulties nor had no difficulties	I had difficulties	I had a lot of difficulties
3	17	17	17	8
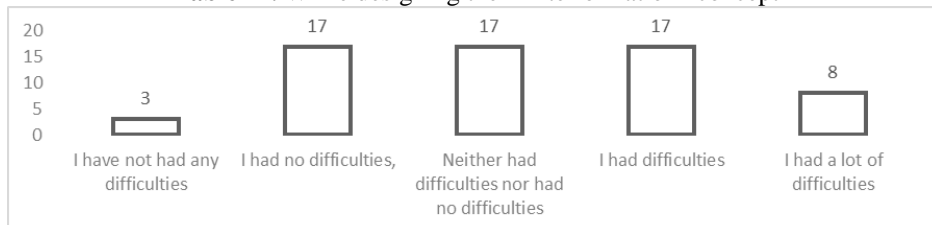
After the 2nd Concept practice, which was conducted in Design Studio I course, we asked students whether they had difficulties or not while using elements, principle, and formal organizations in concept production. In this context, those who said they did not have difficulties and those who are indecisive said they neither had difficulties nor had no difficulties and also, those who stated that they had difficulties have the same percentage

at 27.41% (Table 11). Student practices for the tackled concepts within the scope of the course can be seen in Table 12 and Table 13.

Table 12. Visuals of the studies done for the withdrawal concept

Table 13. Visuals of the studies done for the exteriorization concept

RESULTS, DISCUSSION AND SUGGESTIONS

In this study, conceptual applications related to the distance education process and design processes were made. Criticism sessions were held through applications in live courses and semi-structured questions were asked through electronic survey. In this context, there are 62 students who attended the course and survey study. A great majority of these students who participated in the survey within the education system which continued for one year through distance education did not change their cities. 1/4 of the students stated their necessity to change their cities when face to face education begins. It is inferred that those students are not in the city of Istanbul where the university is located. Most of those 1st year students who are between 18 and 20 are high school graduates. A small group of them has never studied at university before. It was seen in the survey answers that those students studied departments related to design field. Therefore, the same small group of the students, who said yes to the question have you ever received design education before, consists of the same students. The majority which consists of high school graduates came across the design concept for the first time at university.

Students had difficulties while getting used to the system in the fall semester which was the first semester of distance education process. Therefore, within the scope of the topic, majority is seen indecisive when they state their education satisfaction level, and the secondary majority is seen satisfied. Most of those students who are highly and averagely satisfied with education, actively attended the online courses. A small minority indicated that they followed courses through recordings. Percentages of those students and the minority of students who are not satisfied with education are equal. Therefore, it is clear that watching recorded courses of the interior architecture department which is especially based on design, application and corrections is not appropriate for this department and thus, dissatisfaction increases, and students fail to understand the courses. It can be understood from the positive answers of more than half of the students who attend the courses that they have improved themselves on abstract thinking. In the richness of design materials, students made their own design discoveries during distance education. In this context, it was observed that the most popular basic interior architecture department materials in general are marker, rapido and charcoal pencil. Students' element, principle and formal organization preferences were tackled within 2 dimensional compositions created with "Withdrawal" and "Exteriorization" Concepts that were chosen in design and concept relationship as a tribute to the current period. In this context, the students who were asked to think on these two opposite concepts were again expected to choose opposite design tools such as style, organization etc. As the result of the practices and survey, it was observed that the students again benefitted from the same shape, line, color etc. In this context, it was observed that the most popular shape in both concept practices was square. It was determined that they mostly choose central arrangements and radial arrangements under the formal organization title. Although they are compositions created through two opposite concepts, it was determined that they choose the same design elements, style, and organizations. This shows that students do not take risks when they create a design.

When the visual compositions that are created for the "Withdrawal" and "Exteriorization" concepts tackled under the design principles title, it can be seen that they create the coherence element with the repetition of shapes, they create balance with asymmetry, they create the hierarchy principle by using different thicknesses, and they use the proportion and dominance principles with dimensional quests. Only an internal orientation in the withdrawal concept during the creation of shapes in organization can be seen; and in exteriorization concept, continuous repetition of the shapes towards the outwards of the composition can be seen. As a result, it was determined that the 62 students who received design studio I course in distance education format in interior architecture department in the 2020-2021 academic year prefer the same element, principle, and organizations when they tackle with two opposite situations. While the percentage of the difficulty that the students faced in the first withdrawal concept practice was high, balance was seen in the difficulty percentages in the secondary conceptual design process. As the students are in the first semester of their education life, it is normal in terms of the difficulty percentage development of them. Although practices were done on two different opposite concepts, similarities were determined in this process.

With this research, it can be expressed that at the end of the distance education process, most of the students are trying to improve themselves on their professional education awareness, and they somehow try to verbally express themselves in the courses. Although there are students who do not always attend the courses and state

that they watch the recordings, it is considered that their statements about falling behind in this applied discipline and not being able to improve themselves creates a negative effect in their participation in education. Also, students' tendency to abstract thinking and their familiarity with it was clearly seen. If the narratives are summarized in this direction,

- Students first met the concept of design during their university years.
- In the first stage of distance education, they had difficulty in understanding the design title, then their adaptation increased.
- They had to familiarize themselves with the design materials.
- At the end of the term, their understanding of abstract concepts and their satisfaction with distance education increased.
- It has been determined that they use the same design principles while working on two opposite concepts.
- It was determined that they had difficulty in the first conceptual study, and that after their experience, the difficulty in the second conceptual study decreased.

It would be appropriate for the educators who are responsible for the management of the courses to conduct studies on online education and its derivatives with more students and educators. Considering the outputs of the study, the following suggestions can be made;

- The necessity of face-to-face design education, especially while creating the concept, but the use of data loading areas in project revisions should be continued through online education.
- While applying online education, different digital platforms can be used for applied courses. The communication between the instructor and the student can be strengthened with the methods that require short-term practice and expression that can keep the perceptions of the students awake for a long time in front of the screen.
- Psychological problems, difficulties in material supply and learning problems were experienced by students who had to take online courses for the first time during the pandemic period. It is necessary to continue the supervision of the digital materials that students can access in terms of strengthening the communication of educational institutions, uploading documents using data systems used in distance education, especially theoretical information.
- While the communication between the student and the educator is encouraged in online education, cooperation between the students should also be ensured. When using active learning techniques, this communication should be supported with feedback. While managing the timing of the tasks assigned to the student well, it is necessary to prepare them for the inferences that can be drawn in a certain time.

Authors' Contributions

The research was conducted by three researchers. The authors contributed equally to the study.

Competing Interests

It is out of question that the authors have no personal or financial interest within the scope of this research. Mentioned authors contributed to the study on a complimentary basis. Therefore, they do not have declarations of interest.

Ethics Committee Declaration

Researchers did everything according to every necessary ethical rule throughout the research process. The data obtained from the participants was only used for the research, and the research ethicprinciples were used as base during the reporting of the study. This research; According to the Ethics Committee of T.R. Maltepe University, in Article 6 of the directive; in accordance with the principles such as "devotion to scientific discipline, respect for life, not harming,

informing all concerned about possible harm and risks, responsibility to humanity and society". Allowed at the meeting The Ethics Committee held on 25.12.2020 to implement the research, which forms the basis of the publication, with the decision number 2020/17-08.

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Figure References

Figure 1: Özsırkıntı Kasap, H., Türkmen, A. (2018). Temel tasarım eğitiminde yüzeyden hacime geçiş çalışmalarının biçim üretimi bağlamında değerlendirilmesi. *(ISAS) 2nd International Symposium on Innovative Approaches in Scientific Studies,* Samsun, Türkiye.

Figure 2: Ching, F. (2014). *Mimarlık: Biçim, mekân ve düzen*. YEM Yayın.

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